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**CAMERON STATION, ALEXANDRIA, VIRGINIA**



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AUTHORS: (8) Brodovyy, V. A. and Lyashenko, V. I.

TITLE: (6) Temperature dependence of the kinetics of photoconductivity of single crystals of  $Sb_2S_3$

PERIODICAL: (15) Ukrayins'kyy fizychnyy zhurnal, v. 7, 10, 1962.  
pp. 1062-1066

TEXT: The temperature range was  $-100^{\circ}$  to  $+100^{\circ}C$ . The kinetics of photoconductivity were studied by analyzing the decrease of photocurrent after illuminating the samples by single rectangular pulses of white light. There are two groups of specimens with different behavior, which is illustrated by graphs taken from two specimens, the resistance of specimen 1 being about  $10^9$  ohm.cm and that of specimen 2 about  $10^8$  ohm.cm. Each component of the photocurrent is considered separately. Heating of specimen 1 leads to more intense poly-molecular recombination. At  $68^{\circ}C$  the decrease of the first component of the photocurrent is exponential, and so is that of the second component at  $44^{\circ}C$ . Decrease of temperature only di-

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minishes the intensity of the first component, which practically disappears at  $-35^{\circ}C$ . In specimen 2 there is no change of recombination mechanism with temperature increase up to  $80^{\circ}C$ . The stationary photoconductivity of the specimens has a maximum about  $-10^{\circ}C$  and a minimum about  $35^{\circ}C$ . There are 4 figures.

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SUBMITTED: March 13, 1962

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